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10/600,221	06/19/2003	Namik Hrle	SVL920030011US1	9790

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G. Marlin Knight
Hoyt & Knight, Attorneys at Law
PO Box 1320
Pioneer, CA 95666

EXAMINER

COLAN, GIOVANNA B

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,221

Applicant(s)

HRLE ET AL.

Examiner

Giovanna Colan

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application. ^{5/4 5/10/06}
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is issued in response to the Amendment filed on 03/15/2006.
2. Claims 3, 9, and 29 were amended. No claims were cancelled. No claims were added.
3. This action is made Final.
4. Claims 1 – 33 are pending in this application.
5. Applicant's arguments filed on 03/15/2006 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claim 1 – 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (Kawamura hereinafter) (US Patent No. 5,778,388) in view of Mosher, Jr. et al. (Mosher hereinafter) (US Patent No. 6,785,696 B2).

Regarding Claim 1, Kawamura discloses a database management system comprising:

a mainline database system that makes modifications to data in the database management system using a write-ahead logging protocol (Col. 6, lines 36 – 42, Kawamura); stores data on a first set of storage volumes (Col. 5, lines 38 – 39, Kawamura) and stores log records on a second set of storage volumes (Col. 5, lines 39 – 41, Kawamura); restores consistency between the log records and the data during a restart (Col. 3 and 10, lines 56 – 64 and 1 – 2, Kawamura), and while a backup system lock is held by a backup utility (Col. 9, lines 33 – 34, Kawamura), continues updating objects except (Col. 9, lines 47 – 50, Kawamura) for suspending actions that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura¹), suspending writing updates of objects that extend across a storage volume boundary (Col. 9, lines 52 – 56, Kawamura).

¹ Kawamura discloses that when the buffer is locked any input or output operation will be inhibited for the external storages. This implies that the input or output operations are actions which can change an external file system catalog.

Regarding Claim 9, 17, and 26, Kawamura discloses an article of manufacture comprising computer usable media including at least one computer program recorded therein that is capable of causing a computer system to perform a method of operating a database management system comprising the steps of:

modifying data in the database management system using a write-ahead logging protocol (Col. 6, lines 36 – 42, Kawamura);

restoring consistency between log records and the data during a restart (Col. 3 and 10, lines 56 – 64 and 1 – 2, Kawamura);

storing data on a first set of storage volumes (Fig. 2, item Database 36a and Database 36b, Col. 5, lines 37 – 39, Kawamura) and storing log records on a second set of storage volumes (Fig. 2, item Log File 37, Col. 5, lines 39 – 41, Kawamura);

continuing to update the data (Col. 9, lines 47 – 50, Kawamura) while the backup system lock is taken (Col. 9, lines 31 – 34, Kawamura), except for suspending actions that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura²), and except for suspending writing updates of objects that extend across a storage volume boundary (Col. 9, lines 52 – 56, Kawamura).

Kawamura also discloses a backup system lock that, when is taken, suspends transactions (Col. 9, lines 7 – 10, Kawamura). However, Kawamura does not explicitly disclose freezing a REDO log point in checkpoint information while the backup system lock is taken (Claim 1, 9, 17, and 26). On the other hand, Mosher discloses a system

and method for backing up data, including a REDO log point in checkpoint information (Col. 8, lines 43 – 46 and 50 – 52, Mosher). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawamura's system and method to include the freezing transactions, such as, a REDO log point in check point information, based upon the disclosure of Mosher for the purpose of providing consistency and stability between re-updates done to a database while a backup lock is was taken. Skilled artisan would have been motivated to do so, as suggested by Mosher (Col. 2, lines 11 – 16, Mosher), to provide both local and distributed (or network) consistency after a failure. In addition, based upon Mosher disclosure, one of ordinary skill in the art at the time the invention was made would have been motivated to do so in order to provide reliable information to users of a database management system. Both of the references Kawamura and Mosher teach features that are directed to analogous art and they are directed to the same field of endeavor of database management system, such as, back up procedures, and data consistency operations during failure. This close relation between both of the references highly suggests an expectation of success.

Regarding Claim 2, the Kawamura and Mosher combination (hereinafter "Kawamura/Mosher") discloses a database management system, further comprising a backup utility that obtains the backup system lock before starting a backup process (Fig. 14, item 408, Col. 11, lines 9 – 10, Kawamura); copies the first set of storage volumes to a first set of backup volumes (Fig 14, item 409, lines 10 – 12, Kawamura); records

² Kawamura discloses that when the buffer is locked any input or output operation will be inhibited for the

information identifying the first set of backup volumes in a dataset (Col. 6, lines 34 – 38, the update related to the update is written in the LSN field, Kawamura).

Regarding Claim 3, Kawamura/Mosher discloses a database management system, wherein the backup utility copies the second set of storage volumes to the backup medium (Fig. 2 and 21, items 16, and 37 and 2710, lines 64 – 67, Kawamura; Fig. 2, items 96, 88, and 74a, Col. 4, lines 26 – 27, Mosher); and records backup volume information for the second set of storage volumes in the dataset (Fig. 21, item 2710, col. 14, lines 67, Kawamura; Fig. 2, items 96, 88, and 70, Col. 4, lines 25 – 26, Mosher).

Regarding Claim 4, Kawamura/Mosher discloses database management system further comprising a restore utility that performs a point-in-time recovery (Fig. 8, items 366, Col. 8, line 19, Mosher) using the data from the first set of backup volumes (Col. 8, lines 19 – 20, Mosher), a user specified point-in-time (Col. 4, lines 14 – 16, Mosher³), and the logs on the second set of storage volumes (Col. 8, lines 21 – 23, header to identify a particular SIT file, Mosher).

Regarding Claim 5, Kawamura/Mosher discloses a database management system wherein the restore utility marks a first object as recovery-pending when a log record identifies the first object as having been updated without log records (Col. 10,

external storages. This implies that the input or output operations are actions which can change an external file system catalog.

³ Mosher discloses that the system will receive user requests for storing and restoring. In addition Mosher teaches a system comprising with a Timestamp feature (see Fig. 8, items 366, Col. 8, lines 19) added to the Extractor. The extractor is an entity that reads data to be stored and/or restored (see Fig 2, items 80, 82, 84, 86).

lines 26 – 28 and 56 – 60, Mosher) so that subsequent restoration of the first object can be made from an image copy (Col. 10, lines 60 – 61, Mosher).

Regarding Claim 6, 14, and 23, Kawamura/Mosher discloses a database management system wherein the mainline database system writes log records to identify objects that have been updated without log records (Col. 10, lines 24 – 29, Mosher) and writes log records to identify objects that have been created, extended and/or deleted (Col 6 and 10, lines 17 – 23 and 20 – 24, Mosher).

Regarding Claim 7, Kawamura/Mosher discloses a database management system wherein the mainline database system stores checkpoint information periodically (Fig. 11, Col. 8, lines 40 – 42, Mosher) and the backup utility records a log apply starting point corresponding to a last checkpoint information storage point (Col. 8, lines 43 – 46, Mosher).

Regarding Claim 8, Kawamura/Mosher discloses a database management system wherein the mainline database system obtains the backup system lock (Col. 9, lines 33 – 34, Kawamura) before updating objects that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura⁴) or that extend across a storage volume boundary (Col. 9, lines 52 – 56, Kawamura).

Regarding Claim 10, Kawamura/Mosher discloses a database management system further comprising:

means for obtaining the backup system lock before starting a backup process (Fig. 14, item 408, Col. 11, lines 9 – 10, Kawamura); for copying the first set of storage

volumes to a first set of backup volumes (Fig 14, item 409, lines 10 – 12, Kawamura); and for recording information identifying the first set of backup volumes in a recovery control dataset (Col. 6, lines 34 – 38, the update related to the update is written in the LSN field, Kawamura) and in an external file system's control dataset (Col. 5, lines 66 – 67, Kawamura).

Regarding Claim 11, Kawamura/Mosher discloses a database management system further comprising means for copying the second set of storage volumes to a second set of backup volumes (Fig. 2 and 21, items 16, and 37 and 2710, lines 64 – 67, respectively, Kawamura; Fig. 2, items 96, 88, and 74a, Col. 4, lines 26 – 27, Mosher); and means for recording information identifying the second set of backup volumes in the recovery control dataset (Fig. 21, item 2710, col. 14, lines 67, Kawamura; Fig. 2, items 96, 88, and 70, Col. 4, lines 25 – 26, Mosher) and in the external file system's control dataset (Fig. 2, item 16 and 37, Col. 5, lines 64 – 67, Kawamura).

Regarding Claim 12, Kawamura/Mosher discloses a database management system further comprising means for restoring data from the first set of backup volumes to the first set of storage volumes (Fig 14, item 409, lines 10 – 12, Kawamura; Col. 3, lines 64 – 67, Mosher) and for performing a point-in-time recovery using a user specified point-in-time (Col. 4, lines 14 – 16, Mosher⁵), and the logs on the second set

⁴ Kawamura discloses that when the buffer is locked any input or output operation will be inhibited for the external storages. This implies that the input or output operations are actions which can change an external file system catalog.

⁵ Mosher discloses that the system will receive user requests for storing and restoring. In addition Mosher teaches a system comprising with a Timestamp feature (see Fig. 8, items 366, Col. 8, lines 19) added to the Extractor. The extractor is an entity that reads data to be stored and/or restored (see Fig 2, items 80, 82, 84, 86).

of storage volumes (Col. 8, lines 21 – 23, header to identify a particular SIT file, Mosher).

Regarding Claim 15, Kawamura/Mosher discloses a database management system further comprising means for storing checkpoint information periodically (Fig. 11, Col. 8, lines 40 – 42, Mosher) and the means for backing up the data further comprises means for recording a log apply starting point corresponding to a last checkpoint information storage point (Col. 8, lines 43 – 46, Mosher).

Regarding Claim 16, Kawamura/Mosher discloses a database management system further comprising means for obtaining the backup system lock (Col. 9, lines 33 – 34, Kawamura) before updating objects that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura⁶) or that extend across a storage volume boundary (Col. 9, lines 52 – 56, Kawamura).

Regarding Claim 18, Kawamura/Mosher discloses a method further comprising the step of backing up the data and wherein the step of backing up the data further comprises obtaining the backup system lock (Fig. 14, item 408, Col. 11, lines 9 – 10, Kawamura) and after obtaining the backup system lock, copying the first set of storage volumes to a first set of backup volumes (Fig 14, item 409, lines 10 – 12, Kawamura).

Regarding Claim 19, Kawamura/Mosher discloses a method further wherein the step of backing up the data further comprises the step of recording information identifying the first set of backup volumes in a recovery control dataset (Col. 6, lines 34

⁶ Kawamura discloses that when the buffer is locked any input or output operation will be inhibited for the external storages. This implies that the input or output operations are actions which can change an external file system catalog.

– 38, the update related to the update is written in the LSN field, Kawamura) and in an external file system's control dataset (Col. 5, lines 66 – 67, Kawamura).

Regarding Claim 20, Kawamura/Mosher discloses a method of operating the database management system further comprising backing up log records, after backing up the data, by copying the second set of storage volumes to a second set of backup volumes (Fig. 2 and 21, items 16, and 37 and 2710, lines 64 – 67, respectively, Kawamura; Fig. 2, items 96, 88, and 74a, Col. 4, lines 26 – 27, Mosher).

Regarding Claim 21, Kawamura/Mosher discloses a method of operating the database management system further comprising the steps of restoring data from the first set of backup volumes to the first set of storage volumes (Fig 14, item 409, lines 10 – 12, Kawamura; Col. 3, lines 64 – 67, Mosher) and performing a point-in-time recovery using a user specified point-in-time (Col. 4, lines 14 – 16, Mosher⁷), and the logs on the second set of storage volumes (Col. 8, lines 21 – 23, header to identify a particular SIT file, Mosher).

Regarding Claim 24, Kawamura/Mosher discloses a method of operating the database management system further comprising storing checkpoint information periodically (Fig. 11, Col. 8, lines 40 – 42, Mosher) and the step of backing up the data further comprises recording a log apply starting point corresponding to a last checkpoint information storage point (Col. 8, lines 43 – 46, Mosher).

⁷ Mosher discloses that the system will receive user requests for storing and restoring. In addition Mosher teaches a system comprising with a Timestamp feature (see Fig. 8, items 366, Col. 8, lines 19) added to the Extractor. The extractor is an entity that reads data to be stored and/or restored (see Fig 2, items 80, 82, 84, 86).

Regarding Claim 25, Kawamura/Mosher discloses a method of operating the database management system wherein the step of continuing to update the data while a backup system lock is taken further comprises obtaining the backup system lock (Col. 9, lines 33 – 34, Kawamura) before updating objects that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura⁸) or that extend across a storage volume boundary (Col. 9, lines 52 – 56, Kawamura).

Regarding Claim 27, Kawamura/Mosher discloses an article of manufacture wherein the method further comprises the step of backing up the data and wherein the step of backing up the data further comprises obtaining the backup system lock (Fig. 14, item 408, Col. 11, lines 9 – 10, Kawamura) and after obtaining the backup system lock, copying the first set of storage volumes to a first set of backup volumes (Fig 14, item 409, lines 10 – 12, Kawamura).

Regarding Claim 28, Kawamura/Mosher discloses an article of manufacture wherein the step of backing up the data further comprises the step of recording information identifying the first set of backup volumes in a control dataset (Col. 6, lines 34 – 38, the update related to the update is written in the LSN field, Kawamura).

Regarding Claim 29, Kawamura/Mosher discloses an article of manufacture wherein the method further comprises backing up log records, after backing up the data, by copying the second set of storage volumes to a second set of backup volumes (Fig. 2 and 21, items 16, and 37 and 2710, lines 64 – 67, respectively, Kawamura; Fig. 2, items 96, 88, and 74a, Col. 4, lines 26 – 27, Mosher).

⁸ Kawamura discloses that when the buffer is locked any input or output operation will be inhibited for the

Regarding Claim 30, Kawamura/Mosher discloses an article of manufacture of wherein the method further comprises recording information identifying the second set of backup volumes in the recovery control dataset (Fig. 21, item 2710, col. 14, lines 67, Kawamura; Fig. 2, items 96, 88, and 70, Col. 4, lines 25 – 26, Mosher) and in the external file system's control dataset (Fig. 2, item 16 and 37, Col. 5, lines 64 – 67, Kawamura).

Regarding Claim 31, Kawamura/Mosher discloses an article of manufacture of wherein the method further comprises the steps of restoring data from the first set of backup volumes to the first set of storage volumes (Fig 14, item 409, lines 10 – 12, Kawamura; Col. 3, lines 64 – 67, Mosher) and performing a point-in-time recovery using a user specified point-in-time (Col. 4, lines 14 – 16, Mosher⁹), and the logs on the second set of storage volumes (Col. 8, lines 21 – 23, header to identify a particular SIT file, Mosher).

Regarding Claim 13, 22, and 32, Kawamura/Mosher discloses an article of manufacture, wherein the step of performing a point-in-time recovery further comprises the steps of marking a first object as recovery-pending when a log record identifies the first object as having been updated without log records (Col. 10, lines 26 – 28 and 56 – 60, Mosher) so that subsequent restoration of the first object can be made from an image copy (Col. 10, lines 60 – 61, Mosher); processing log records identifying a

external storages. This implies that the input or output operations are actions which can change an external file system catalog.

⁹ Mosher discloses that the system will receive user requests for storing and restoring. In addition Mosher teaches a system comprising with a Timestamp feature (see Fig. 8, items 366, Col. 8, lines 19) added to the Extractor. The extractor is an entity that reads data to be stored and/or restored (see Fig 2, items 80, 82, 84, 86).

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second object which has been newly created by allocating space for the second object (Col 9 and 10, lines 1 – 3; respectively, Mosher); processing log records identifying a third object which has been newly extended by allocating additional space for the third object (Col. 13, lines 4 – 8, Mosher¹⁰) ; processing log records identifying a fourth object which has been deleted by freeing space for the fourth object (Col. 9, lines 33 – 38, Mosher) ; and setting a mode to indicate that the point-in-time recovery has completed (Col 13, lines 23 – 27, TakeOver_Completed Flag is set, Mosher).

Regarding Claim 33, Kawamura/Mosher discloses an article of manufacture of wherein the step of continuing to update the data while a backup system lock is taken further comprises obtaining the backup system lock (Col. 9, lines 33 – 34, Kawamura) before updating objects that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura¹¹) or that extend cross a storage volume boundary (Col. 9, lines 52 – 56, Kawamura).

¹⁰ Mosher discloses that the object will be updated with additional information. This additional information will have to extend the object.

Response to Arguments

1. Applicants argues that the prior art fails to disclose; "a method of processing using a backup system lock".

Examiner respectfully disagrees. The combination of Kawamura in view of Mosher ("Kawamura/Mosher" hereinafter) does disclose backup processes (Col. 8, lines 51 – 55, Kawamura; and Col. 4, lines 14 – 16, Mosher) and a backup system lock (Col. 9, lines 1 – 10, Kawamura). Wherein examiner interprets the step of restoring a database when a system stops, for example, due to a failure (Col. 8, lines 53 – 55, Kawamura) as the step of backing up claimed. According to the Webster's New World Computer Dictionary from Wiley 2003, back up means to duplicate hardware, software, or data for retrieval in the event of system failure or user error. Both of the references cited (Kawamura/Mosher) teach limitations that include backup processes. In addition, the lock (Col. 9, lines 7 – 10, Kawamura) corresponds to the back up system lock claimed. According to Kawamura, this lock is used together with syncpoints (Col. 8, lines 55 – 57, Kawamura) and buffers to provide a backup procedure for the database, particularly, by providing data integrity during data restore (Col. 9, lines 1 – 7, Kawamura). Consequently, this lock represents the back up system lock claimed.

¹¹ Kawamura discloses that when the buffer is locked any input or output operation will be inhibited for the

2. Applicants argues that the prior art fails to disclose; "continuing to update the data while the backup system lock is taken, except for suspending actions that change an external file system catalog, and except for suspending writing updates of objects that extend across a storage volume boundary".

Examiner respectfully disagrees. Kawamura/Mosher discloses continuing to update the data while the backup system lock is taken (Col. 9, lines 31 – 34, Kawamura), except for suspending actions that change an external file system catalog (Col. 9, lines 33 – 35, Kawamura). Wherein the input and output operations for the external storages corresponds to the suspending actions that change an external file system catalog claimed. In addition, Kawamura/Mosher discloses except for suspending writing updates of objects that extend across a storage volume boundary (Col. 9, lines 52 – 56, Kawamura). Wherein the write operation achieved for another transaction corresponds to the writing updates of objects that extend across a storage volume boundary claimed. Furthermore, Kawamura/Mosher discloses how the lock will be taken except for suspending transactions as discussed above (Col. 9, lines 52 – 56, Kawamura). Wherein decrementing the counter lock corresponds to the step of setting the lock, specifically, disclosed as "taken the backup system lock except for such transactions".

external storages. This implies that the input or output operations are actions which can change an external file system catalog.

3. Applicant argues that the prior art fails to disclose; analogous art and a reasonable combination.

Examiner respectfully disagrees. Both of the references Kawamura and Mosher teach features that are directed to analogous art and they are directed to the same field of endeavor of database management system, such as, back up procedures, and data consistency operations during failure. This close relation between both of the references highly suggests an expectation of success. Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Mosher' teachings to the system of Kawamura. Skilled artisan would have been motivated to do so, as suggested by Mosher (Col. 2, lines 11 – 16, Mosher), to provide both local and distributed (or network) consistency after a failure. Accordingly, skilled artisan would have been motivated to modify Kawamura's system and method to include the freezing transactions, such as, a REDO log point in check point information, based upon the disclosure of Mosher for the purpose of providing consistency and stability between re-updates done to a database while a backup lock is was taken, and to provide reliable information to users of a database management system.

4. Applicant argues that the prior art fails to disclose; "freezing a REDO log point in checkpoint information while a backup system lock is taken".

Examiner respectfully disagrees. Kawamura/Mosher does disclose freezing a REDO log point in checkpoint information (Col. 8, lines 43 – 46 and 50 – 52, Mosher) while a backup system lock is taken (Col. 9, lines 31 – 35, Kawamura; and Col. Col. 8,

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lines 50 and 52, Mosher). Wherein the step of stopping the updaters, which includes a redo operation (as disclosed in reference Col. 8, lines 43 – 46, Mosher), corresponds to the step of freezing the REDO log point in checkpoint information as claimed. And wherein the lock (as disclosed by Kawamura, Col. 9, lines 1 – 10) and the StopUpdaterCompleted flag (as disclosed by Mosher, Col. 8, lines 50 – 52) correspond to the backup system lock claimed.

5. Applicant argues that the prior art fails to disclose; “storing log records and data records on separate volumes”.

Examiner respectfully disagrees. Kawamura/Mosher discloses storing data on a first set of storage volumes (Fig. 2, item Database 36a and Database 36b, Col. 5, lines 37 – 39, Kawamura), and storing log records on a second set of storage volumes (Fig. 2, item Log File 37, Col. 5, lines 39 – 41, Kawamura). Wherein the step of storing the database controlled by a database management system corresponds to the step of storing data on a first set of storage volumes claimed; and the step of storing information of updated history related to database update operations corresponds to the step of storing log records on a second set of storage volumes claimed.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Points Of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Giovanna Colan
Examiner
Art Unit 2162\
May 9, 2006


JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100